

## GEOMETRID NOTES, A NEW GENUS AND SPECIES FROM ARIZONA.

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Oak Creek Canyon, south of Flagstaff in northern Arizona, is one of the most interesting collecting grounds in the Southwest. A narrow colorful canyon with abundant water flowing between towering cliffs, it is the happy meeting ground of the high desert and the pines. Before the last war Mrs. Sperry and the author captured three specimens of a Larentid moth which defied determination. It was sent to Washington for description but the war upset many excellent plans and Mr. Hahn W. Capps was only able to express the opinion that it represented an undescribed genus. In 1947 and 1948 we were again able to visit Oak Creek and obtained a small series of the new Larentid and after correspondence with Mr. Capps the author has decided to describe.

### *Herreshoffia* gen. n.

(Type, *Herreshoffia gracca* sp. n. )

Palpi in both sexes moderate ( $1\frac{1}{2}$  times the width of the eye) flattened, porrect heavily clothed with scales. Tongue present; front bulging, with conical scale tuft; eye, smooth, large, round. Male antennae nearly simple, every finely short ciliate; female antennae simple. Hind tibia of male not swollen and without hair pencil, with two pairs of spurs in both sexes; fore tibia unarmed.

Fovea lacking; frenulum in male, long and slender, in female, a short brush of bristles. Chaetosema, normal Hydrimenid type. Thorax untufted; abdomen of the male with small lateral scale tufts, of female with short, lateral, terminal tufts.

Forewing; 12 veined, a single areole, 3 from before the angle, 4 from the angle, 5 closer to 6 than 4, 6 from areole beyond angle, 7 and 8 connate from tip of areole, 9 from 8 near apex, 10 from 8 half way between tip of areole and 9, 11 from areole, 12 free.

Hindwing, 8 veined, 3 and 4 connate from angle, 5 nearer 6 than 4, 6 and 7 moderately stalked, 8 with cell to beyond  $\frac{3}{4}$ .

Forewing broad, triangular, costa curved, apex falcate, outer margin excavated between veins 1 and 3, 3 and 4, 4 and 8.

Hindwing, broad, triangular, outer margin excavated between veins 1 and 3, 3 and 4, and 4 and 6.

The shape of the wings would place this genus nearest to *Horisme* Hbn. in our North American list but the genitalia place it

between *Hammaptera* H-S. and *Camptogramma* Steph. It differs from all three of the aforementioned genera in wing shape and in having a single areole, also in the position of lines 3 and 4 on the secondaries. In the male genitalia the uncus is long, slender, needle shaped, the valvae squared at the end and the costa produced in a curved hook heavily spined at the tip, the heavily spined juxta shows the relationship in all three genera. The bursa of the female is nearest to that of *Hammaptera* the opening is heavily sclerotised, there is a short ductus bursae but there are heavily sclerotised separated plates extending well down over the bursa, signum a tiny spot on the bursa wall.

### **Herreshoffia gracea** sp. n.

Both sexes: Palpi, front, vertex antennae, legs and thorax, cart-ridge buff (Ridgeway color), antennae and legs flecked with fuscous. Ground color of both wings straw-white, so heavily washed with colored scales that parts of the wings seem entirely covered. Lines fuscous or of the ground color of the wing.

Primaries: Costa heavily fuscous for the first third, with white spots marking the inception of the basal and t.a. lines at one-eighth and  $\frac{1}{4}$  out respectively.

These lines are double, broken, fuscous hair lines with ground color between, they swing out from the base of the costal spot at an angle of about 45 degrees, go to the cell and curve slightly back to inner margin at one-fifth and one-third out respectively. There is a tiny dark dot on the costa at one-third and suggestions of a median line subparallel to the t.a. line but fading out below the cell. At  $\frac{1}{2}$  out there is an irregular, single fuscous hair line with sharp outward points at vein 12 and between veins 6 and 7, from 6 it runs roughly at right angles to the inner margin, fading out at vein 2. Halfway between this line and the t.p. there are traces of another subparallel irregular hair line of dark rose brown scales. The t.p. line is double as is the t. a. line with a white line between. The costa is broadly light, from the t.p. line to the apex and the white spot which marks the t.p. inception is lost in the ground color at costa but well marked below; this line is heavier than the others, running perpendicular to the costa to vein 7, has a sharp outward tooth between 6 and 7 and from 6 goes roughly perpendicular to the inner margin, with inward angles on the veins to inner margin at eight-tenths out. There are traces of a subparallel s.t. line, the white scales marking its position are most evident between veins 5 and 6 and between 6 and 7. There is a dark terminal line. Fringes

of ground color with occasional specklings of fuscous on the tips and dark spots at ends of veins 3, 4, 6 and 7. The whole wing is washed with yellow-brown, purple-brown, red-brown and red scales. There is a round, bright pure white spot 1 mm. in diameter in the sub-terminal area between veins 3 and 4 which is the most conspicuous marking on the forewing. The yellow-brown shading is heavy on the costal half of the basal area, across the cell, around the white spot and bordering the t.p. line outwardly above the spot. The red-brown shadings are along the inner edge of the t.p. line and in the cell outside the t.a. line. The purple-brown shading is heavy throughout the terminal area ending in a diagonal line running from 7 on the outer margin back toward the center of the wing. The wing is lightest along the inner margin, through the median area on the costa and apically near the costa. There is a tiny black discal dot at the end of the cell.

Secondaries: Costal area and inner margin from base to t.p. line, white with light speckling of darker atoms; basal area heavily speckled with purple-brown.

T.a. line continues from primaries, a solid line, obscure, curving evenly across the wing. Median line stronger than on primaries, subparallel to t.a. line. The wing beyond this line is washed with light, rosy-brown scales, blotting out the ground color. T.p. line a scalloped white hair line, the points of the scallops turning inward on the veins, curves evenly across the wing two-thirds out. There are traces of a white s.t. line from apex to tornos. There is a dark terminal line. Fringes as in primaries with the dark spots at the ends of veins 3, 4 and 6 on the wing points. Discal dot absent.

Beneath: The colors are dimmer than above and a grayer tinge predominates, the lines are indicated with about the same value as above. The bright white spot on the upper surface is dimmed. Discal spot on the primaries heavier than above, on the secondaries merely indicated.

Expanse: male, 17-18 mm., female 25-27 mm.

Holotype, female Todd's Lodge, Oak Creek Canyon, Arizona, Sept. 28, 1948, Grace H. Sperry, coll. and in the Sperry collection.

Allotype, male same locality, Oct. 3, 1948, G. H. & J. L. Sperry, coll. and in the Sperry collection.

Paratypes, 2 males, 1 female, same locality and collectors, June and September, in the U.S. National Museum. 1 male, 5 females, same locality and collectors Sept. 11 to Oct. 5, 1947 and 1948 in the British Museum and collection Sperry.

This beautiful species and the new genus of which it is the type are named in honor of my wife, Grace Herreshoff Sperry, in happy memory of thirty years lived joyously together in "sun and candle light".

Species collected or examined and genitalic work done on the Geometridae during the past year have convinced the author that there is a bit of interest and a few changes that may profitably be made in our present list, so he ventures to submit, in this paper, a few paragraphs that may be of value.

*Semiothisa curvata* Grote

Among our specimens taken on the Upper Santa Ana River in the San Bernardino Mts. of California, there was one beautiful albinic male, entirely white, with the brownish t.a. and t.p. lines showing clearly on the snowy ground, the costal markings mere shades and the terminal line dim on both wings. Only a trace of the t.p. line shows on the inner margin of the secondaries. Beneath it is white speckled sparingly with light brown atoms with the t.a. and t.p. lines showing dimly through the white ground color.

*Semiothisa cruciata* Grote

In making routine slides of *curvata* Grt. from many different parts of the West the author came upon a specimen from Frijoles Canyon, N. M. taken in July by Mr. Chester A. Thomas custodian of the Monument, which answers Grote's *cruciata* description exactly. The part of the description pertaining to the t.p. line is especially apt "outer line black, sinuous, bent outwardly on costal region" for *curvata's* t.p. line normally bends inward just below the costa. The genitalia place this specimen near or equal to *nigroalbana* Cass. and if the type specimen of *cruciata* checks this one, *cruciata* Grote is a good species with *nigroalbana* Cass. probably a synonym thereof. The author does not know where the Grote type is at present but will welcome information.

*Itame nervata* Gn.

Through the kindness of Mr. D. S. Fletcher of the British Museum staff the author has been able to examine a topotypical pair of this species from Brazil.

The species is not an *Itame* but was probably correctly placed by its author in the genus *Macaria*. The male antennae are ciliate and fasciculate and as near as the author can tell by the male genitalia en situ, the species belongs in the genus *Semiothisa* near *punctolineata* Pack. and has been so placed in the Sperry collection.

*Dasyfidonia macdunnoughi* Guedet

Mrs. Sperry and the author found a flight of this interesting insect in progress at type locality on the Mojave Desert in April and obtaining a good series the author made routine slides and discovered that this *Dasyfidonia* is a good species and not a form of *avuncularia* as originally described. The male genitalia are close but in *macdunnoughi* the whole organ is so heavily sclerotised that it is almost black and is smaller, broader and chunkier throughout. In the female however there is considerable difference. In *avuncularia* the ostium is weak, the plate in the ductus bursae moderately long and narrow and the signum is a large snowshoe shaped plaque, heavily spined at the edges. In *macdunnoughi* the ostium is stronger, the plate short and nearly square and the signum shield shaped, about one-third the size of that in *avuncularia* and very weakly spined. The insect is a day flyer, local but plentiful when it flies and the Rev. Edward Guedet's description is excellent.

*Prochoerodes floridata* Grote

For several years the author has been receiving from South Florida a *Prochoerodes* labelled *politia* Cramer which was smaller than it should be.

In 1947 a good series of a much larger and brighter species was received from Mrs. L. E. Forsyth of Florida City, Fla. with an inquiry as to its identity. This series checked toptotypical material in the author's collection from Brazil and genitalic slides showed that it was *politia* Cramer and that we were dealing with two species from South Florida. With this in mind, through the good offices of our friend Dr. L. I. Hewes, who made inquiry at the U.S. National Museum and Mr. Hahn W. Capps who made the genitalic comparison with the type of *floridata* Grote, and to both of which gentlemen the author is deeply indebted, it was determined that our smaller species which has been placed for so many years under *politia* Cramer is in reality *floridata* Grote and that *floridata* Grote and *politia* Cramer are separate and distinct species, Dr. Hulst's remarks on the subject (1894, Ent. News V, 304) notwithstanding. There are several good differences but one will suffice.

In *politia* the aedeagus of the male has the vesica apically armed with five large curved spines. That of *floridata* is simple.